

STATE OF MICHIGAN



JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HAR DING, Director

REPLY TO:

DRINKING WATER & RADIOLOGICAL
PROTECTION DIVISION
3423 N MARTIN L KING JR BLVD
PO BOX 30630
LANSING, MI 48909-8130

July 30, 2001

TO: Local Health Departments
ATTN: Environmental Health Directors
Field Sanitarians

FROM: Michael S. Gaber, Chief
Well Construction Unit
Ground Water Supply Section
Drinking Water and Radiological Protection Division

SUBJECT: Pressure Relief Valves – Rule 156

Several local health department sanitarians have asked about the purpose of a pressure relief valve, and how to determine if one is needed on a water supply system. Rule 156, R 325.1656(3), of the Michigan Water Well Construction and Pump Installation Code, states:

"If a pump is capable of developing water pressures greater than the manufacturers' rated working pressure of the pressure tank, a pressure relief valve shall be installed near the tank."

Pressure relief valves protect the building occupants from injury due to a tank or plumbing component rupture if a malfunction causes the pump to operate beyond the normal pump shutoff pressure. They are pressure actuated valves held closed by a spring and are designed to automatically open to relieve pressure at a predetermined pressure setting.

To tell whether a pressure relief valve is needed, you must compare the maximum discharge pressure on the pump specification sheet to the maximum working pressure of the tank. Doing this for each case is time consuming and impractical. A review of common pump manufacturers' specification sheets shows that typical ½ horsepower (h.p.), 4 inch submersible pumps have a maximum discharge pressure over 100 pounds per square inch (psi). (A ¾ h.p., 10 gallons per minute submersible pump can develop over 150 psi of shutoff head.) Since most captive air pressure tanks (diaphragm or bladder-type) have a maximum working pressure of 100 psi, pressure relief valves are needed. Pressure relief valves are expected to be installed unless documentation is provided showing that the specific pump does not have the potential to exceed the pressure tank working pressure.

cc: Water Well Drilling Contractors
Pump Installation Contractors
District Offices, DEQ